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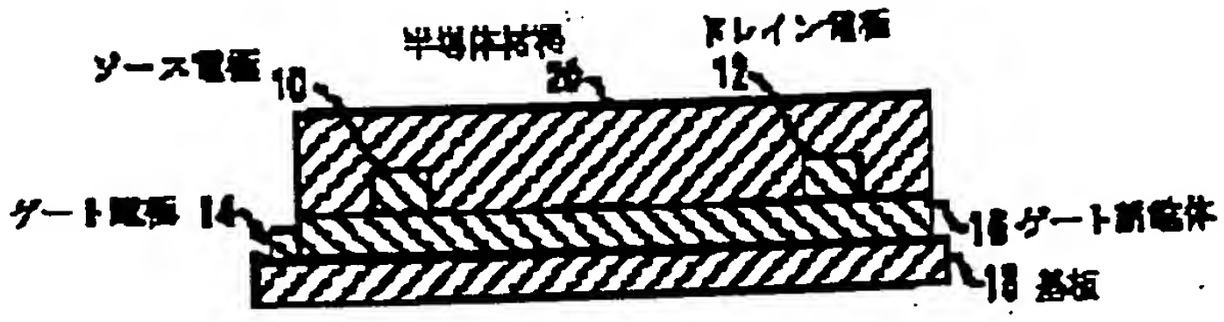

JP10135481
DEVICE CONSISTING OF THIN FILM TRANSISTOR

LUCENT TECHNOL INC

Inventor(s): ;ANNAS DODABARAPER ;HOWARD EDAN KATZ ;JOYCE G RAKINDANAM

Application No. 09281661 , **Filed** 19971015 , **Published** 19980522 ,

Abstract: PROBLEM TO BE SOLVED: To improve the property of an n-channel organic semiconductor material to be used for a TFT that an n-type organic semiconductor compound has a single linear array of an nonsaturated ring and a LUMO energy level has a specific value besides showing a field-effect quantum mobility.

SOLUTION: A device using a TFT consisting of an n-type organic semiconductor material consists of a thin film transistor with a gate 14, a source 10, a drain 12 and an n- type organic semiconductor compound. This n-type organic semiconductor compound has a single linear array of an unsaturated ring to be selected from a carbon ring and a heterocycle and has a lowest unoccupied molecular orbit (LUMO) energy level of about 3.5 to about 4.6eV in reference to a vacuum energy level. This compound shows an electric field effect electron mobility above $2 \otimes 0^{-4}$ $CM^2V^{-1}S^{-1}$. Further, the n-type organic semiconductor compound is selected from NTCDA, NTCDI and TCNNQD.

Int'l Class: H01L029786 H01L05100

Priority: ;US 96 729304 19961015

MicroPatent Reference Number: 000022459